Science with a Mission

Advancing the Energy, Economic, and National Security of the United States

Office of Science
U.S. DEPARTMENT OF ENERGY

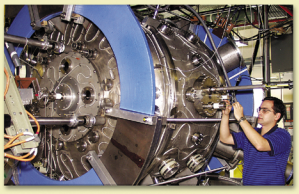
Scientific User Facilities

The Department of Energy's Office of Science builds and operates the world's finest suite of scientific facilities and instruments that researchers depend on to extend the frontiers of science.

Each year, these DOE Office of Science facilities are used by more than 19,000 researchers and their students from universities, private industry, and other government agencies, including the National Science Foundation and the National Institutes of Health.

These very large and complex machines and instruments have enabled U.S. researchers to make many of the most important scientific discoveries over the past six decades, with spin-off technological advances creating entirely new devices and industries.

The Office of Science's state-of-the-art facilities are located at national laboratories and universities, open to researchers on a peer-reviewed basis, shared with the science community worldwide, and feature technologies and capabilities that are available nowhere else.



The $1.4 billion Spallation Neutron Source (SNS) at Oak Ridge National Laboratory, the largest civilian science project in the U.S., is on track to be completed in 2006 on time and on budget. The SNS will provide the most intense pulsed neutron beams in the world for scientific research and technology development.

Our Facilities

The DOE Office of Science facilities include:

- particle accelerators
- synchrotron light sources
- neutron scattering facilities
- supercomputers
- high-speed networks
- genome sequencing facilities.

What Distinguishes the DOE Office of Science?

The Office of Science fills a unique and central role in the country's scientific endeavor. Our work is complementary to that of other government research agencies.

We distinguish ourselves by our emphasis on research that:

- is driven by the Department of Energy missions,
- takes the long view,
- is open and interdisciplinary,
- requires the use of large-scale facilities, and
- takes risks commensurate with the high pay-offs we expect.

20-Year Facilities Outlook

The health and vitality of U.S. science and technology depends upon the availability of the most advanced research facilities.

Facilities for the Future of Science: A Twenty-Year Outlook lists 28 new large scientific facilities and upgrades of current facilities that will define scientific opportunities across all fields of science supported by DOE over the next 20 years.

Investment in these facilities will yield extraordinary scientific breakthroughs – and vital societal and economic benefits.

	Priority	Program	Facility
	1	FES	ITER
	2	ASCR	UltraScale Scientific Computing Capability
Near-Term	Tie for 3	HEP	Joint Dark Energy Mission
		BES	Linac Coherent Light Source
		BER	Protein Production and Tags
		NP	Rare Isotope Accelerator
	Tie for 7	BER	Characterization and Imaging
		NP	CEBAF Upgrade
		ASCR	ESnet Upgrade
		ASCR	NERSC Upgrade
		BES	Transmission Electron Achromatic Microscope
	12	HEP	BTeV
	13	HEP	Linear Collider
Mid-Term	Tie for 14	BER	Analysis and Modeling of Cellular Systems
		BES	SNS 2-4 MW Upgrade
		BES	SNS Second Target Station
		BER	Whole Proteome Analysis
	Tie for 18	NP/HEP	Double Beta Decay Underground Detector
		FES	Next-Step Spherical Torus
		NP	RHIC II
Far-Term	Tie for 21	BES	National Synchrotron Light Source Upgrade
		HEP	Super Neutrino Beam
		BES	Advanced Light Source Upgrade
		BES	Advanced Photon Source Upgrade
	Tie for 23	NP	eRHIC
		FES	Fusion Energy Contingency
		BES	HFIR Second Cold Source and Guide Hall
		FES	Integrated Beam Experiment

Near-term
Mid-term
Far-term

Programs:
ASCR = Advanced Scientific Computing Research
BES = Basic Energy Sciences
BER = Biological and Environmental Research
FES = Fusion Energy Sciences
HEP = High Energy Physics
NP = Nuclear Physics

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